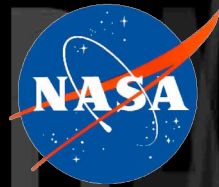


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# **Schedules, Schedules, Schedules**

## **Review of V5 Schedule and Status Preview of the V6 Schedule**

**Steven Friedman  
AIRS Science Processing**

**September 27, 2006**



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## Topics

- **Review V5 Schedule – from ages gone by**
- **Current V5 Status**
- **V6 Schedule Goals**
- **V6 Schedule**
- **V6 Milestones**
- **V6 Science Goals**

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## Planned

- May 2005 ST MTG – June 1, 2006
- Sept. 2005 ST MTG – June 1, 2006
- March 2006 ST MTG – June 30, 2006
- Sept. 2006 ST MTG – October 30, 2006

The diagram illustrates the development timeline for the V4.2 release candidate, showing the progression from initial development to final release. The central flow of milestones is as follows:

- V4.3** (Surface Emissivity) - **Sept. 27, 2005**
- V4.4** (Error Estimation)
- V4.5** (Trace Gases)
- V4.6/V4.7** (Additional Features Integration and Test) - **Feb. 15, 2006**
- V4.8** (V6.0 Release Candidate) - **Apr 28, 2006**

Team assignments and tasks for each milestone are as follows:

- Team 1** (Tuning and RTA):
  - Stow - UMBG
  - Susskind - GSCF
  - Barnet - NOAA
  - Tobin - Wisconsin
  - LeY Lee - JPL
  - Manning - JPL
  - Hearty - JPL
  - Balsdel - GSCF
- Team 2** (No AMSU AIRS Only):
  - Barnet - NOAA
  - Balsdel - MIT
  - Cho - MIT
  - Manning - JPL
  - Balsdel - GSCF
  - Susskind - GSCF
  - Golberg - NOAA
- Team 3** (Surface Emissivity):
  - Barnet - NOAA
  - Stow - UMBG
  - Harrison - UMBG
  - Zhou - NOAA
  - Knutson - Wisconsin
  - Susskind - GSCF
  - Balsdel - GSCF
  - LeMahant - JCSDA
  - Monor - AER
- Team 4** (Error Estimation):
  - Susskind - GSCF
  - Barnet - NOAA
  - Feter - JPL
  - Iron - JPL
  - Fahnen - JPL
  - McElroy - UMBG
  - Balsdel - GSCF
  - Kels - GSCF
  - Redell - GSCF
- Team 5** (Trace Gases):
  - McElroy - UMBG
  - Stow - UMBG
  - Barnet - NOAA
  - Olsen - JPL
- Team 6** (Level 1B Calibration):
  - Gaiser - JPL
  - Lambertson - UMBG
  - Stow - UMBG
  - Barnet - NOAA
  - Gaiser - JPL

Key dates and milestones are highlighted in yellow boxes:

- Dec 31, 2005**: Milestone for V4.3.
- Sept. 27, 2005**: Milestone for V4.3.
- Feb. 15, 2006**: Milestone for V4.6/V4.7.
- Apr 28, 2006**: Milestone for V4.8.

Final milestones and release information:

- V4.2** (AIRS Only Retrievals / No Tuning)
- V4.2** (AIRS Only) Interim Release on the shelf

Timeline of V5 Release Candidate milestones:

- 12/31/05: Science Team Dev Ends for Focus Teams 1-4
- 1/1/2006: Integration of Team Algorithms begins
- 3/1/2006: Science Team Meeting (3/7-10/06)
- 3/1/2006: I&T / VAL DP begins
- 5/1/2006: DAAC I&T begins
- 6/30: JPL Delivery to DAAC
- 8/15/06: V5 Operational; Begin Collection 5 Processing
- 2/15/06: Science Team Dev Ends for Focus Teams 5
- 4/28: V5 Release Candidate Operational at JPL; Validation DP Begins



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## Current V5 Status

- **V5 development continued into Summer 2006, responding to issues identified during last Science Team MTG**
  - Mostly L2 – AIRS Only, Error representation and QA, minor constituents
  - Some Level 1B issues remained until quite recently
  - Level 3 programmers had to respond to Level 2 changes
- **We do have a better product now**
- **The software baseline appears to be stabilizing now**
- **With AIRS Project direction supported by your Science Team affirmation, we will move forward with our final build and delivery to the GES DISC**



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## Current V5 Status

### • **Currently running V4.6.2**

### **(V5 beta release candidate .... semi-hardened-concrete)**

- Processed all Focus Days in 3 variants (48-day cycle)
  - Standard retrieval (AIRS + AMSU)
  - AIRS Only (NO AMSU)
  - GSFC Hybrid (AIRS Only retrieval, AMSU QA)
- Reaching closure: Still working some minor issues
  - Mostly Level 2, one Level 1B remaining
  - Level 3 Support Product still in early design/coding stages (will not hold up delivery for this product)

### • **Important Dates:**

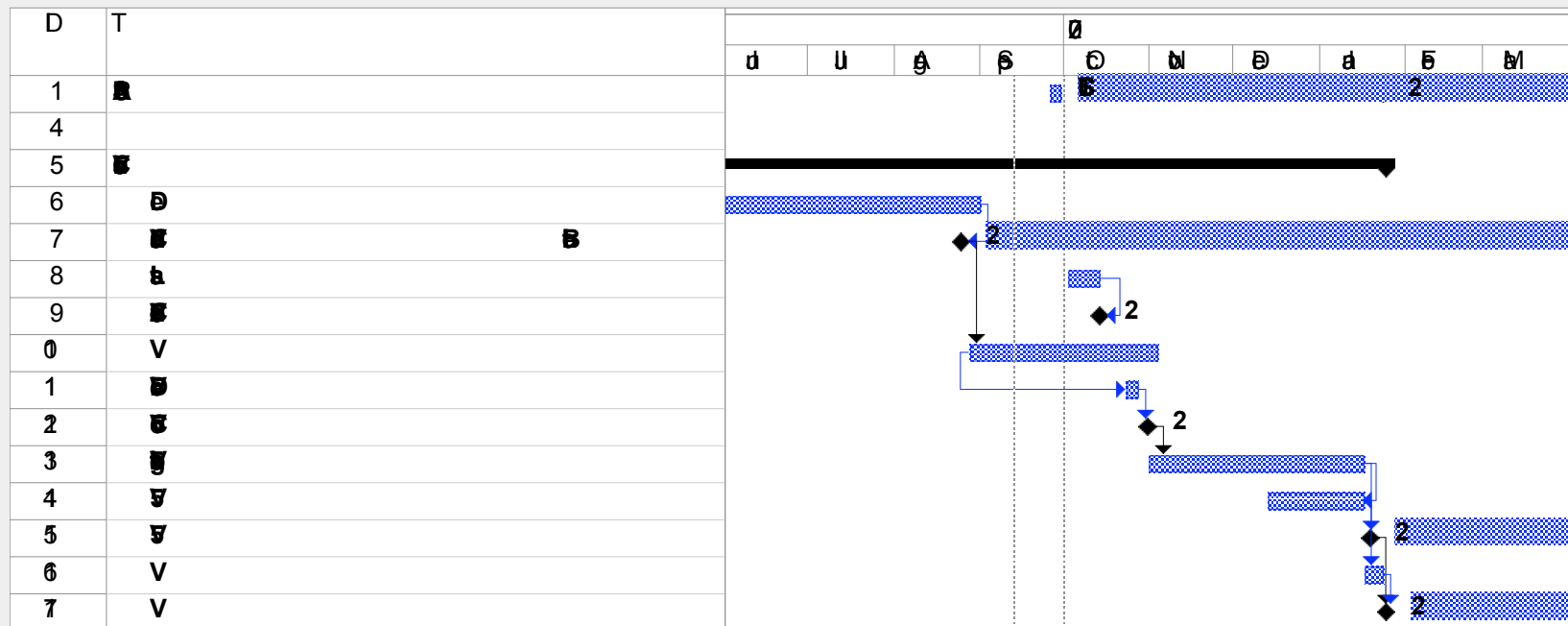
- Code freeze – through Level 2 no later than 13 October 2006
- Delivery to GES DISC (GSFC DAAC) on 30 October 2006



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## V5 Schedule Remaining Milestones

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# Moving onto V6: Filling in the holes



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## V6 Schedule Goals

- **Provide sufficient time to develop a quality product improvement over V5. Time allocated for:**
  - Preliminary investigations and prototyping
  - Development time – greater than 1 year
  - Testing – three months allocated for comprehensive tests
- **V6 Development concept is based on successful V5 Approach**
  - AIRS Project will coordinate development
  - Science Team to lead/support task-oriented “Focus Teams”
  - JPL AIRS Team to support Science Team
  - JPL AIRS software team responsible integration and test
- **Mid-course corrections, status checks at two more Science Team meetings (Spring and Fall 2007)**



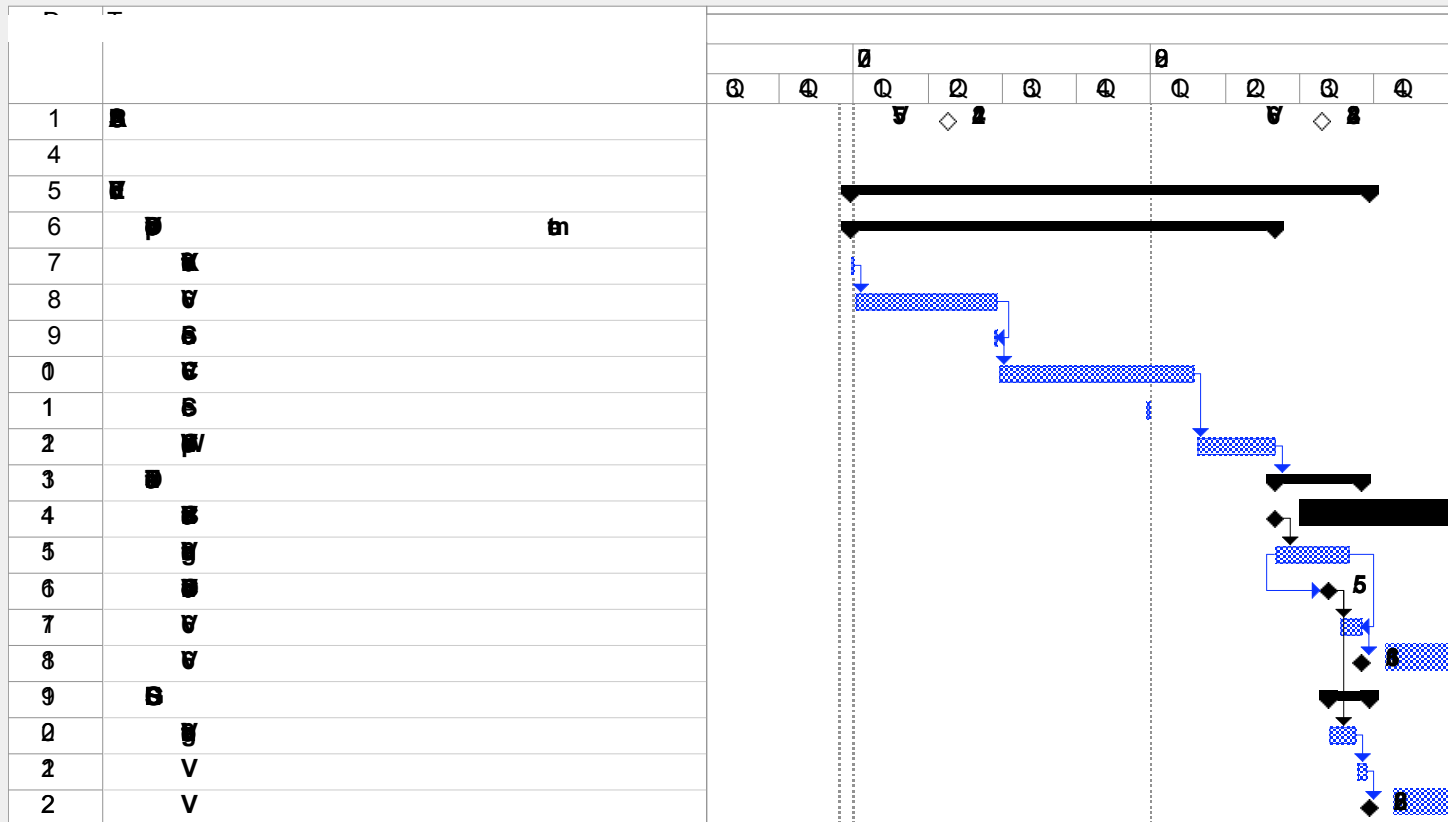


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# V6 Schedule

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## V6 Milestones

**Learning from previous version development efforts, we have included sufficient time for all activities:**

- Preliminary investigations / prototyping – six months
- Total development time – greater than 1 year
- Testing – three months

V6 Kickoff – Science Team MTG	September 2006
Concept Development and Prototyping	March 2007
V6 Content Determination - Science Team MTG	March 2007
V6 Development	November 2007
V6 Status – closure issues - Science Team MTG	September 2007
V6 Code wrap-up (CCB controlled)	February 2008
V6 Candidate Build	February 2008
V6 Integration and Test	May 2008
V6 Delivery to GES DISC	May 2008
V6 Operational	July 2008



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## V6 Science Goals

- **V6 Science Goals – to be determined by the AIRS Project**
  - Science Team input needed
  - Science Team collaboration desired
- **Research Topics:**
  - Emissivity – land surfaces
  - Correction of other pathological cases over land
  - Additional minor constituents
  - ...
  - ... the choice is ours, and now we'll talk about it.

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# Work Remaining Before V5 Code Freeze



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## Work Remaining Before V5 Code Freeze

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- **Issues still being resolved:**

1. Use of "GSFC-IR" retrieval as baseline process  
(MW-assisted AIRS-Only retrieval, aka, "*blended*")

2. Implement GFS  $\frac{1}{2}$  degree data

- GFS upgrade planned in next few months, date not firm

- Decision to:

- Integrate as  $\frac{1}{2}$  degree data source

- or -

- Degrade back to 1 degree resolution

- *This is not critical to resolve immediately. There will be at least a six-month overlap in GFS coverage. The upgrade can be delivered as a patch. However, we'd like to deliver it with the V5 delivery.*



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## Work Remaining Before V5 Code Freeze (cont'd.)

1. **Revert to old cloudy regression – used AMSU for filtering (JPL)**
2. **Fix JPL cloud retrieval –Type 100 fallback, AIRS-Only (JPL)**
3. **Solve for LW emissivity – add new retrieval step (GSFC)**
4. **Update CO first guess, check validity w/RTA (McMillan/Hannon)**
5. **CO standard product fields - bottom of atmosphere (GSFC)**
6. **Incorporate RTA Version 9f (Methane bias change) (GSFC)**
7. **Generate new error estimates (GSFC)**
8. **Harmonizing Qual Flag / Error Estimate (JPL/GSFC)**
9. **H2O Saturation Water Vapor Pressure – correction (Fishbein)**
10. **Tropopause Height – new calculation (Fishbein)**
11. **Clear Flag to L2 STD Product (JPL)**
12. **L2 using Match-Up input fails in IR-Only retrieval mode (JPL)**





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## Work Remaining Before V5 Code Freeze (cont'd.)

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### • Still Investigating

- Warmest FOV, warmer than clear in Cloud-Clearing (NOAA)
- *This is not a small issue and has just been identified. It will probably be resolved during the V6 development cycle.*